What is claimed is:

1. A method for powering an implantable medical device with an electrochemical cell, the cell comprising an alkali metal anode coupled to a cathode of a cathode active material activated with an electrolyte, comprising the steps of:

a) powering the implantable medical device with the cell;

b) monitoring the depth-of-discharge (DOD) of the cell;

c) predetermining a first depth-of-discharge (DOD_1) at which a cell reform protocol will commence with the cell periodically delivering a pulse discharge of electrical current of significantly greater amplitude than that of the background current or an open circuit voltage immediately prior to the pulse discharge;

d) predetermining a second depth-of-discharge (DOD_2) at which the periodic pulse discharges for the cell reform protocol will be discontinued;

e) upon the cell reaching the predetermined DOD_1, commencing the cell reform protocol by discharging the cell to deliver a pulse 1 of electrical current of significantly greater amplitude than that of the background current or an open circuit voltage immediately prior to the pulse 1 discharge;

f) waiting a time interval;

g) discharging the cell to deliver a pulse 1 + n of electrical current of significantly greater amplitude than that of the background current or

an open circuit voltage immediately prior to the pulse 1 + n discharge, wherein $n \geq 1$; and

h) discontinuing the cell reform protocol upon the cell having been discharged to DOD_2.

2. The method of claim 1 wherein the time interval is about once every day to about once every eight weeks during the cell reform protocol.

3. The method of claim 1 wherein the pulse discharge consists of at least one 5 to 20-second 15 mA/cm^2 to 50 mA/cm^2 pulse.

4. The method of claim 3 wherein there is at least two pulses separated from each other by about a 10 to 30 second rest.

5. The method of claim 1 including calculating DOD_1 based on a predetermined voltage.

6. The method of claim 1 including calculating DOD_1 based on an accumulated capacity having been removed from the cell.

7. The method of claim 1 including calculating DOD_1 based on an elapsed time period calculated as: $T = (DOD_2 - DOD_1) \times C_t / [24 \times I_b + C_p/D]$, wherein C_t is the theoretical capacity of the cell, I_b is the medical device's average background discharge current, C_p is the total capacity consumption by discharging the cell to deliver a pulse discharge of electrical current of significantly greater amplitude than that of the background current or an open circuit voltage

immediately prior to the pulse discharge, and D is the number of days between two successive pulse discharges.

8. The method of claim 1 including calculating DOD_2 based on a predetermined voltage.

9. The method of claim 1 including calculating DOD_2 based on an accumulated capacity having been removed from the cell.

10. A method for powering an implantable medical device with an electrochemical cell, the cell comprising an alkali metal anode coupled to a cathode of a cathode active material activated with an electrolyte, comprising the steps of:

a) powering the implantable medical device with the cell;
b) monitoring the depth-of-discharge (DOD) of the cell;
c) accumulating a discharge capacity measurement;
d) upon the cell reaching a predetermined first depth-of-discharge (DOD_1) based on the accumulated discharge capacity measurement, commencing a cell reform protocol by discharging the cell to deliver a pulse 1 of electrical current of significantly greater amplitude than that of a pre-pulse current or open circuit voltage immediately prior to the first pulse discharge;
e) waiting a time interval;
f) discharging the cell to deliver a pulse 1 + n of electrical current of significantly greater amplitude than that of a pre-pulse current or open

circuit voltage immediately prior to the second pulse discharge, wherein $n \geq 1$; and

g) upon the cell reaching a predetermined second depth-of-discharge (DOD_2) based on the accumulated discharge capacity measurement, discontinuing the cell reform protocol.

11. The method of claim 10 wherein the implantable medical device is programmed to monitor the DOD.

12. The method of claim 10 including discharging the cell to deliver the pulse 1 and pulse 1 + n to the implantable medical device or to a secondary load.

13. The method of claim 10 including discharging the cell to deliver about 20 mA/cm^2 to about 50 mA/cm^2 as the pulse 1 and pulse 1 + n discharges.

14. The method of claim 10 including providing the anode comprising lithium and selecting the cathode active material from the group consisting of silver vanadium oxide, copper silver vanadium oxide, manganese dioxide, copper vanadium oxide, titanium disulfide, copper oxide, copper sulfide, iron sulfide, iron disulfide, fluorinated carbon, and mixtures thereof.

15. A method for powering an implantable medical device with an electrochemical cell, the cell comprising an alkali metal anode coupled to a cathode of a cathode active material activated with an electrolyte, comprising the steps of:

a) powering the implantable medical device with the cell;

b) monitoring the depth-of-discharge (DOD) of the cell;

c) predetermining a first depth-of-discharge (DOD_1) and an elapsed time period at which a second depth-of-discharge (DOD_2) will have been obtained, wherein the elapsed time period is calculated as: $T = (DOD_2 - DOD_1) \times C_t / [24 \times I_b + C_p/D]$, wherein C_t is the theoretical capacity of the cell, I_b is the medical device's average background discharge current, C_p is the total capacity consumption by discharging the cell to deliver a pulse discharge of electrical current of significantly greater amplitude than that of the background current or an open circuit voltage immediately prior to the pulse discharge, and D is the number of days between two successive pulse discharges;

d) upon the cell reaching the predetermined DOD_1, commencing a cell reform protocol by discharging the cell to deliver a pulse 1 of electrical current of significantly greater amplitude than that of the background current or an open circuit voltage immediately prior to the pulse 1 discharge;

e) waiting a time interval;

f) discharging the cell to deliver a pulse 1 + n of electrical current of significantly greater

amplitude than that of the background current or an open circuit voltage immediately prior to the pulse 1 + n discharge, wherein $n \geq 1$; and

g) discontinuing the cell reform protocol at the expiration of the elapsed time and the cell having been discharged to DOD_2.

16. The method of claim 15 wherein the implantable medical device is programmed to monitor the DOD.

17. The method of claim 15 including discharging the cell to deliver the pulse 1 and pulse 1 + n to the implantable medical device or to a secondary load.

18. The method of claim 15 including discharging the cell to deliver about 20 mA/cm^2 to about 50 mA/cm^2 as the pulse 1 and pulse 1 + n discharges.

19. The method of claim 15 including providing the anode comprising lithium and selecting the cathode active material from the group consisting of silver vanadium oxide, copper silver vanadium oxide, manganese dioxide, copper vanadium oxide, titanium disulfide, copper oxide, copper sulfide, iron sulfide, iron disulfide, fluorinated carbon, and mixtures thereof.

20. The method of claim 19 including providing the cathode as either a pressed powder or a free standing sheet of the silver vanadium oxide.